

Appl. No. 10/022, 708
Amdt. Dated October 11, 2006
Reply to Office Action of July 11, 2006

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A solid-state image sensing device comprising:
a plurality of groups of ~~sensors~~ sensor devices, each of the group of ~~sensors~~ sensor devices comprises a at least one line of pixels and a at least one charge-transfer part for further transferring signal ~~charge~~ charges ~~to be read-out~~ from each pixel of the line of pixels; and
wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of said plurality of groups of sensor devices; and
driving means, ~~by which, in case of read-out of the signal charge is performed at a different timing between each of said plurality of groups of sensors, wherein during a read-out period of a first group of sensors~~ sensor devices, ~~stepping stops charge-transfer driving of the signal charge of a second group of sensor devices sensors is performed by said driving means.~~
2. (Currently Amended) A solid-state image sensing device according to Claim 1, wherein said groups of ~~sensors~~ sensor devices are formed on the same chip.
3. (Currently Amended) A solid-state image sensing device according to Claim 1,

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wherein ~~a reading period of the signal charge from said line of pixels to said charge-transfer part in said plurality of groups of sensors~~ said time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for each group of ~~sensors~~ sensor devices.

4. (Currently Amended) A solid-state image sensing device according to Claim 1, wherein said driving means further comprises charge-transfer driving of at least a final transfer stage of the charge-transfer part in said ~~either first~~ first group(s) of ~~sensors~~ sensor devices during the period when the remainder of the charge-transfer driving of the signal charge in said ~~either second~~ second group(s) of ~~sensors~~ sensor devices is stopped.

5. (Currently Amended) A solid-state image sensing device according to Claim 1, wherein said driving means further comprises restarting of transfer driving of the signal charge in said ~~either second~~ second group(s) of ~~sensors~~ sensor devices in accordance with the output timing of said first group of ~~sensors~~ sensor devices.

6. (Currently Amended) A method for driving a solid-state image sensing device, the image sensing device comprising a plurality of groups of ~~sensors~~ sensor devices, each of the group of ~~sensors~~ sensor devices comprises a at least one line of pixels and a at least one charge-transfer part for further transferring a signal ~~charge-to-be~~ charges read-out from each pixel of the line of pixels, wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of

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said plurality of groups of sensor devices, the driving method comprises stopping transfer driving of the signal charge of a second group of ~~sensors~~ sensor devices wherein during a read-out period of a first group of sensor devices ~~sensors in case of read out of a signal charge at a different timing between each of said plurality of groups of sensors is~~ performed.

7. (Currently Amended) A method for driving a solid-state image sensing device according to Claim 6,

wherein said groups of ~~sensors~~ sensor devices are formed on the same chip.

8. (Currently Amended) A method for driving a solid-state image sensing device according to Claim 6,

wherein ~~a reading period of the signal charge from said line of pixels to said charge transfer part in said plurality of groups of sensors~~ said time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for each group of ~~sensors~~ sensor devices.

9. (Currently Amended) A method for driving a solid-state image sensing device according to Claim 6,

wherein charge-transfer driving of at least a final transfer stage of the charge-transfer part in said ~~other~~ first group of sensors sensor devices is continued during the period when the ~~remainder of the transfer driving of the signal charge in said other~~ second group of sensors sensor devices is stopped.

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10. (Currently Amended) A method for driving a solid-state image sensing device according to Claim 6,

wherein restarting of transfer driving of the signal charge in said ~~other~~ second group of sensors is in accordance with the output timing of said first group of ~~sensors~~ sensor devices.

11. (Currently Amended) An image scanner comprising a solid-state image sensing device for an image sensor to read a document image, the solid-state image sensing device comprising:

a plurality of groups of sensors sensor devices, each of the group of ~~sensors~~ sensor devices comprises a line of pixels and a charge-transfer part for further transferring signal ~~charge to be~~ charges read-out from each pixel of the line of pixels; and

wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of said plurality of groups of sensor devices; and

driving means, ~~by which, in case of read-out of the signal charge is performed at a different timing between each of said plurality of groups of sensors, wherein~~ during a read-out period of a first group of ~~sensors~~ sensor devices, ~~stopping stops charge-transfer driving of the signal charge of a second group of~~ sensor devices ~~sensors is performed.~~

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12. (Currently Amended) An image scanner comprising a solid-state image sensing device for an image sensor to read a document image, the solid-state image sensing device comprising:

at least a first group of ~~color-sensors~~ color-sensor devices and a second group of ~~monochrome-sensors~~ monochrome-sensor devices formed on the same chip, each group of ~~sensors~~ sensor devices comprising a at least one line of pixels and a at least one charge-transfer part for further transferring signal ~~charge-to-be~~ charges ~~read~~ read-out from each pixel of the line of pixels; and

driving means which stops charge-transfer driving of the signal charges of the charge-transfer part of the color-sensors during a reading period of the monochrome-sensors.

13. (Currently Amended) A solid-state image sensing device according to Claim 1, wherein the pixels of said first group of ~~sensors~~ sensor devices and said second group of ~~sensors~~ sensor devices comprise photodetectors.

14. (Currently Amended) A method for driving a solid-state image sensing device according to Claim 6, wherein the pixels of said first group of ~~sensors~~ sensor devices and said second group of ~~sensors~~ sensor devices comprise photodetectors.

15. (Currently Amended) An image scanner according to Claim 11, wherein the pixels of said first group of ~~sensors~~ sensor devices and said second group of ~~sensors~~ sensor devices comprise photodetectors.

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16. (Currently Amended) An image scanner according to Claim 16, wherein the pixels of said first group of ~~color-sensors~~ color-sensor devices and said second group of ~~monochrome-sensors~~ monochrome-sensor devices comprise photodetectors.